KENWOOD

AUDIO VIDEO SURROUND RECEIVER

VR-309
VR-307
VR-357
KRF-V8020D
KRF-V7020D

INSTRUCTION MANUAL

KENWOOD CORPORATION

This instruction manual is for some models.
Model availability and features (functions) may differ depending on the country and sales area.

About the DTS multi-channel audio format (VR-309, KRF-V8020D)

The DTS multi-channel audio format is available on CD, LD and DVD software. DTS is a strictly digital format and can not be decoded inside most CD, LD or DVD players. For this reason, if you attempt to listen to DTS encoded software through the analog output of your new CD, LD or DVD player, you will experience digital noise in most cases. This noise can be quite loud if the analog output is connected directly to a high power amplification system. Proper measures for playing the digital output as described below should be taken to avoid this situation. To enjoy DTS Digital Surround playback, an external 5.1 channel DTS Digital Surround decoder system or an amplifier with a built-in DTS Digital Surround decoder must be connected to the digital output (S/P DIF, AES/EBU or TpsLink) of a CD, LD or DVD player.
The only audio product models incorporating the DTS Digital Surround decoder are the VR-309 and KRF-V8020D.

About the supplied remote control ...

Compared to standard remote controls, the remote control supplied with this receiver has several operation modes. These modes enable the remote control to control other audio/video components. In order to effectively use the remote control it is important to read the operating instructions and obtain a proper understanding of the remote control and how to switch its operation modes (etc.).
Using the remote control without completely understanding its design and how to switch the operation modes may result in incorrect operations.

B60-4139-00 00 (MA) (K, P, Y, M, X, I) OC 9809

⚠ **Caution : Read this page carefully to ensure safe operation.**

VR-309/307/357/KRF-V8020D/V7020D (En/KM)

Before applying the power

Units are designed for operation as follows.

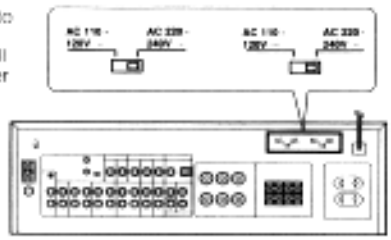
U.S.A. and Canada ..... AC 120 V only
Australia ..... AC 240 V only
China ..... AC 220 V only
***Other countries ..... AC 110-120 / 220-240 V switchable**

* AC voltage selection

The AC voltage selector switch on the rear panel is set to the voltage that prevails in the area to which the unit is shipped. Before connecting the power cord to your AC outlet, make sure that the setting position of this switch matches your line voltage. If not, it must be set to your voltage in accordance with the following direction.

AC voltage selector switch

Move switch lever to match your line voltage with a small screwdriver or other pointed tool.



Note:
Our warranty does not cover damage caused by excessive line voltage due to improper setting of the AC voltage selector switch.

Safety precautions

WARNING :

TO PREVENT FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE.

CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER (OR BACK). NO USER-SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

THE LIGHTNING FLASH WITH ARROWHEAD SYMBOL, WITHIN AN EQUILATERAL TRIANGLE, IS INTENDED TO ALERT THE USER TO THE PRESENCE OF UNINSULATED "DANGEROUS VOLTAGE" WITHIN THE PRODUCT'S ENCLOSURE THAT MAY BE OF SUFFICIENT MAGNITUDE TO CONSTITUTE A RISK OF ELECTRIC SHOCK TO PERSONS.

THE EXCLAMATION POINT WITHIN AN EQUILATERAL TRIANGLE IS INTENDED TO ALERT THE USER TO THE PRESENCE OF IMPORTANT OPERATING AND MAINTENANCE (SERVICING) INSTRUCTIONS IN THE LITERATURE ACCOMPANYING THE APPLIANCE.

Unpacking

Unpack the unit carefully and make sure that all accessories are put aside so they will not be lost.
Examine the unit for any possibility of shipping damage. If your unit is damaged or fails to operate, notify your dealer immediately. If your unit was shipped to you directly, notify the shipping company without delay. Only the consignee (the person or company receiving the unit) can file a claim against the carrier for shipping damage.
We recommend that you retain the original carton and packing materials for use should you transport or ship the unit in the future.

Keep this manual handy for future erference.

Accessories

FM indoor antenna (1)

AM loop antenna (1)

Loop antenna stand (1)

For VR-309, VR-357 and KRF-V8020D

Remote control unit (1)
RC-R0608

Batteries (R03/AAA) (4)

For VR-307 and KRF-V7020D

Remote control unit (1)
RC-R0712

Batteries (R06/AA) (2)

*AC plug adaptor (1)

*Use to adapt the plug on the power cord to the shape of the wall outlet. (Accessory only for regions where use is necessary.)

Cleaning

Do not use volatile solvents such as alcohol, paint thinner, gasoline, or benzine, etc. to clean the cabinet. Use a clean dry cloth.

Do not use contact cleaners because it could cause a malfunction. Be specially careful against contact cleaners containing oil, for they may deform the plastic components.

VR-309/307/305/KRF-V8020D/V7020D (En/KM)

For the U.S.A.

FCC WARNING

This equipment may generate or use radio frequency energy. Changes or modifications to this equipment may cause harmful interference unless the modifications are expressly approved in the instruction manual. The user could lose the authority to operate this equipment if an unauthorized change or modification is made.

NOTE:

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment may cause harmful interference to radio communications, if it is not installed and used in accordance with the instructions. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- – Reorient or relocate the receiving antenna.
- – Increase the separation between the equipment and receiver.
- – Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- – Consult the dealer or an experienced radio / TV technician for help.

For the U.S.A.

Note to CATV system installer:

This reminder is provided to call the CATV system installer's attention to Article 820-40 of the NEC that provides guidelines for proper grounding and, in particular, specifies that the cable ground shall be connected to the grounding system of the building, as close to the point of cable entry as practical.

As an ENERGY STAR® Partner, Kenwood Corporation has determined that this products meets the ENERGY STAR® guidelines for energy efficiency.

This product can save energy. Saving energy reduces air pollution and lowers utility bills.

Contents

Caution : Read the pages marked ⚠ carefully to ensure safe operation.

Preparations

Getting started ***2***
⚠ Before applying the power 2
⚠ Safety precautions 2
Unpacking 2
How to use this manual 4
Special features 4
Names and functions of parts ***5***
Setting up the system ***8***
Connecting audio components 8
Connecting video components 9
Digital connections 9
Connecting the antennas 10
Connecting the system control 11
Connecting the speakers 12
Channel space switching 13
Preparing the remote control 14
Preparing for surround sound ***15***
Speaker settings 15

Operations

Normal playback ***16***
Preparing for playback 16
Listening to a source component 17
Adjusting the sound 17
Recording ***18***
Recording audio (analog sources) 18
Recording video 19
Recording audio (digital sources) 19
Listening to radio broadcasts ***20***
Tuning radio stations 20
Presetting radio stations manually 20
Receiving preset stations 20
Receiving preset stations in order (P.CALL) 21
Ambience effects ***22***
Surround modes 22
Surround play 23
Convenient functions 24

Other

In case of difficulty ***25***
⚠ ***Specifications*** ***26***

Remote Control (Separate booklet)

Quick start guide ***1***
Getting the most from your remote control ***3***
Setup code chart ***7***
In case of difficulty ***13***
Remote operation of other components ***14***

How to use this manual

This manual is divided in to four sections, Preparations, Operations, Other, and Remote Control.

Preparations

Shows you how to connect your audio and video components to the receiver and prepare the surround processor.
We've tried to make setting up your system as easy as possible. However, since this receiver works with all of your audio and video components, connecting the system can be fairly complex.

Operations

Shows you how to operate the various functions available from the receiver.

Other

Shows you additional information such as "In case of difficulty" (trouble-shooting) and "Specifications".

Remote Control (Separate booklet)

Includes the "Quick Start Guide," which shows you how to operate other components using the remote control, as well as a detailed explanation of all remote control operations. Once you have registered your components with the proper setup codes, you'll be able to operate both this receiver and your other AV components (TV, VCR, LD player, CD player, etc.) using the remote control supplied with this receiver.

Special features

True home theater sound

This receiver incorporates a wide variety of surround modes to bring you maximum enjoyment from your video software. Select a surround mode according to your equipment or the software you are going to play and enjoy! –23

DTS (This feature is available only with the VR-309 and KRF-V8020D.)
DTS (Digital Theater System) is a 5.1 channel digital audio format that provides five full-spectrum channels and one low-frequency (subwoofer) channel for unprecedented clarity, optimum channel separation and a (wide) dynamic range.
In the DTS mode, the 5.1 channel digital input from a DTS CD, LD or DVD disc (carrying the "DTS" marking) can be played in Digital Surround.
Important:
When a DTS disc is played on a CD, LD or DVD player, noise may be output from the analog output. It is recommended that you connect the digital output of the player to the digital input of this unit.

Dolby Digital (AC-3)

The DOLBY DIGITAL (AC-3) mode lets you enjoy full digital surround from software processed in the Dolby Digital (AC-3) format. Dolby Digital (AC-3) provides up to 5.1 channels of independent digital audio for better sound quality and more powerful presence than conventional Dolby Surround.

Dolby Pro Logic & Dolby 3 Stereo

This surround system reproduces theater-like surround sound from video software marked [DOLBY SURROUND].
The PRO LOGIC mode uses the built-in adaptive matrix circuit to steer the Left, Center, Right and Surround channel audio signals.
The 3 STEREO mode will redirect the Surround signal to the front left and right speakers when only the front and center speakers are used.

VIRTUAL SURROUND

The surround signals of Dolby Digital and DTS have been designed to provide a rich feeling of presence through usually 5 loudspeakers.
The Virtual Surround feature incorporated in this unit makes it possible to implement a simulated surround effect using only the two speakers of the left and right channels.

Universal IR (InfraRed) remote control

In addition to the basic receiver, the remote control supplied with this receiver can also operate almost all of your remote controllable audio and video components. Just follow the simple setup procedure to register the components you have connected.

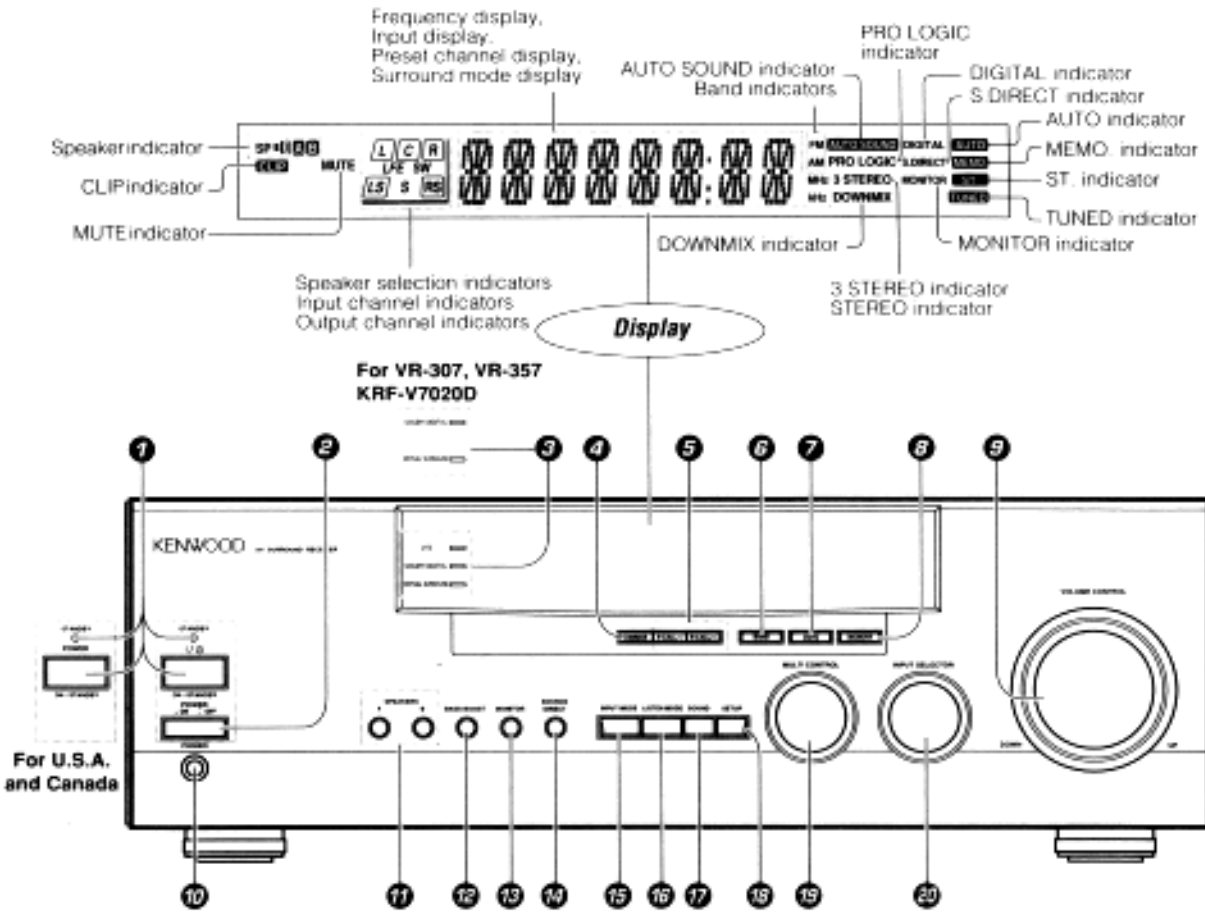
MACRO play

The MACRO function lets you perform a series of operations automatically, like turning ON the power of the receiver and connected components, switching the input selectors, and starting playback. (Be sure to register your components before starting the macro set up procedure.

KAM-1

Exclusive Kenwood modular amplifier circuit that doubles electrical efficiency, producing more power while generating less heat.
KAM-1 offers improved sound quality and reliability.

Names and functions of parts



❶ **POWER key** –16
(For U.S.A. and Canada)
Use to turn the power ON/OFF.
STANDBY indicator

❷ **ON/STANDBY (I/⏻) key** –16
(Except for U.S.A. and Canada)
Use to switch the power ON/STANDBY when the POWER is turned ON.
STANDBY indicator

❸ **POWER key** –16
(Except for U.S.A. and Canada)
Use to turn the main power ON/OFF.

❹ **Surround indicators**
- **DTS indicator** –22
  Lights when the receiver is in the DTS mode.
  (For VR-309, KRF-V8020D)
- **DOLBY DIGITAL indicator** –22
  Lights when the receiver is in the Dolby Digital mode.
- **VIRTUAL SURROUND indicator** –23
  Lights when the receiver is in the Virtual Surround mode.

❺ **DIMMER key** –19 –24
Use to adjust the brightness of the display.
Use to select the REC MODE.

❻ **P.CALL keys** –21
Use to call up previously registered radio stations.

❼ **BAND key** –20
Use to select the broadcast band.

❽ **AUTO key** –20
Use to select the auto tuning mode.

❾ **MEMORY key** –20
Use to store radio stations in the preset memory.

❿ **VOLUME CONTROL knob** –17

⓫ **PHONES jack** –16
Use for headphone listening.

⓬ **SPEAKERS A/B keys** –16
Use to turn the speakers ON/OFF.

⓭ **BASS BOOST key** –17
Use to select the maximum adjustment setting for the low frequency range.

⓮ **MONITOR key** –18

⓯ **SOURCE DIRECT key** –18

⓰ **INPUT MODE key** –19
Use to switch between the digital and analog inputs.

⓱ **LISTEN MODE key** –23
Use to select the listening mode.

⓲ **SOUND key** –24
Use to adjust the sound quality and ambience effects.

⓳ **SETUP key** –25
Use to select the surround sound settings.

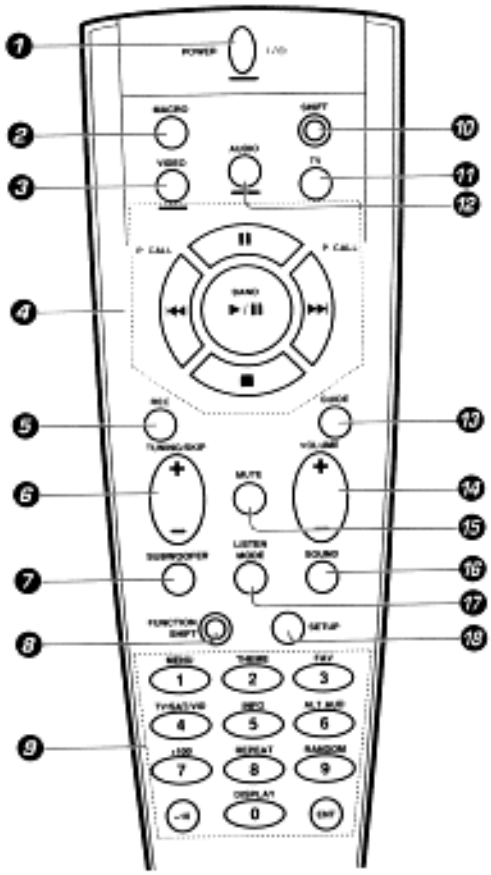
⓴ **MULTI CONTROL knob**
Used to make a variety of settings.

㉑ **INPUT SELECTOR knob** –17
Use to select the input sources.

About the STANDBY indicator

This unit has a STANDBY indicator. When the STANDBY indicator is lit, the unit consumes a small amount of power to preserve the memory. This is called STANDBY mode. This mode also lets you turn the power ON using the remote control.

Remote control unit (RC-R0608)



Page references such as "RC-[10]" indicate pages in the remote control operation manual (Separate booklet).

There are some cases in which keys (or knobs) that have the same function on the receiver and on the remote control have different names. In the instructions of this manual, if the names of corresponding keys (or knobs) on the receiver and remote control are different, the name of the remote control key is indicated in parentheses.

❶ **POWER key** –[18]
Use to turn the receiver on and off.
Use in combination with the input selector (AUDIO, VIDEO, or TV) keys and SHIFT key to turn various components on and off.

❷ **MACRO key** RC–[5]
Use in combination with the AUDIO, VIDEO, or TV keys to execute a series of commands automatically (MACRO PLAY).

❸ **VIDEO selector key**
Selects the video inputs and sets the remote control to operate the component registered at the respective input.

❹ **Multi control keys** RC–[14]
Use to operate the selected component.

❺ **REC key** RC–[14]
Use to operate the selected component.

❻ **TUNING/SKIP key**
Use during the setup procedure to specify various settings. Use to operate the tuner or selected component.

❼ **SUBWOOFER key** –[24]
Use in combination with the VOLUME +/– keys to adjust the volume of the subwoofer.

❽ **FUNCTION SHIFT key** RC–[14]
Use in combination with the numeric keys to execute alternate commands.

❾ **Numeric keys** RC–[15]
Provide functions identical to those of the original remote control supplied with the component you are controlling.
To access the functions printed above the keys, press within 3 seconds of pressing the FUNCTION SHIFT key. Function availability varies for each component.

❿ **SHIFT key** RC–[5]
Use in combination with the AUDIO and VIDEO keys to change the remote control mode without changing the input selector or in combination with the POWER key to turn on and off components programmed into the remote control.

⓫ **TV selector key**
Sets the remote control to operate a TV or cable box. This key does not change the input selector on the receiver.

⓬ **AUDIO selector key**
Selects the audio inputs and sets the remote control to operate the respective KENWOOD audio component.
If you connect audio components from KENWOOD and other makers to the MD/TAPE or CD jacks, you can set the remote control to operate these components by registering the appropriate setup code at the respective input.

⓭ **GUIDE key** RC–[15]
Use to activate the OSD menu functions of registered components.

⓮ **VOLUME key** –[17]
Use to adjust the receiver volume.

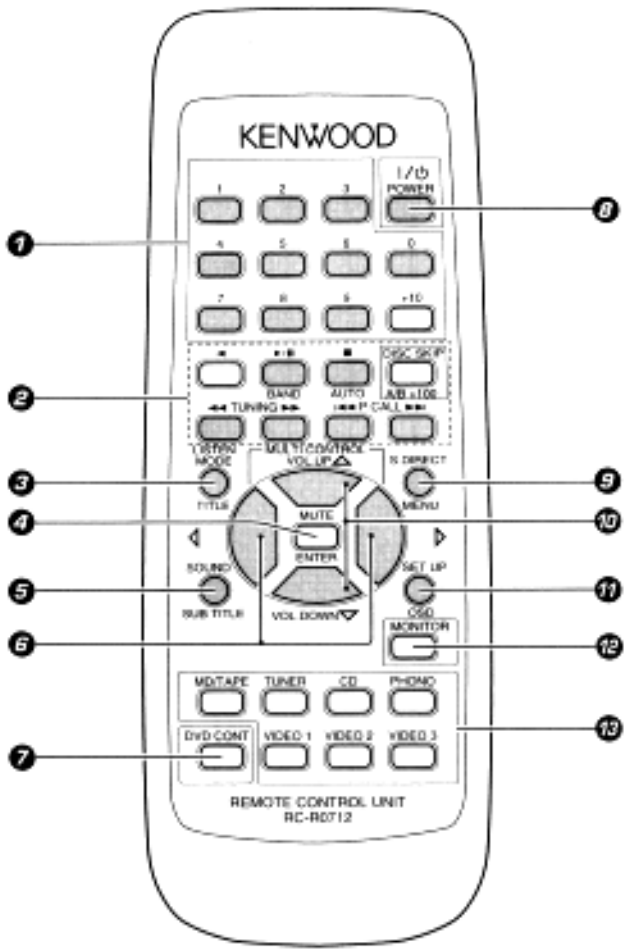
⓯ **MUTE key** –[39]
Use to temporarily mute the sound.

⓰ **SOUND key** –[24]
Use to adjust the sound quality and ambience effects.

⓱ **LISTEN MODE key** –[23]
Use to select the listening mode.

⓲ **SETUP key** –[15]
Use to select the surround sound settings.

Remote control unit (RC-R0712)



❶ **Numeric keys**
If CD or MD is selected as the input source, these keys function as numeric keys. If tuner is selected as the input source, these keys are used to call up station presets.

❷ **Component operation keys**
Use these keys to operate other components with system control connections to the receiver.

◄ key
If tape is selected as the input source, this key functions as the play key for side B of the cassette (the side facing away from the front of the deck).

BAND (►/II) key – 20
If tuner is selected as the input source, this key functions as the band selector key.
If CD is selected as the input source, this key functions as the play/pause key.
If MD is selected as the input source, this key functions as the play key.

DISC SKIP, A/B, +100 key
If CD is selected as the input source, this key functions as the multi-CD player disc skip key.
If TAPE is selected as the input source, this (A and B) of a double cassette deck.

AUTO (■) key – 16
If tuner is selected as the input source, this key functions as the AUTO key.
If CD or MD is selected as the input source, this key functions as the stop key.

TUNING (◄◄ ►►) keys – 20
If tuner is selected as the input source, these keys function as tuning keys.
If CD or MD is selected as the input source, these keys function as search keys.

P.CALL (I◄◄ ►►I) keys – 21
If tuner is selected as the input source, these keys function as P.CALL keys.
If CD or MD is selected as the input source, these keys function as skip keys.

❸ **LISTEN MODE key** – 23
Use to select the listening mode.

❹ **MUTE key** – 38
Use to temporarily mute the sound.

❺ **SOUND key** – 24
Use to adjust the sound quality and ambience effects.

❻ **MULTI CONTROL key**
Used to make a variety of settings.

❼ **DVD CONT key**
Used to operate DVD player.
While holding this key depressed, press any of the keys masked in gray in the above illustration to operate the corresponding function of a DVD player from KENWOOD.
Keys ❶, ❹, ❺, ❻ and ⓫ are given the following functions during the DVD player control operation.
- ❶ :TITLE
- ❹ :ENTER
- ❺ :SUB TITLE
- ❻ :MENU
- ⓫ :OSD

For details, refer to the instruction manual of your DVD player.

❽ **POWER key** – 38
Use to switch the power ON/STANDBY when the POWER is turned ON.

❾ **SOURCE DIRECT key** – 18

❿ **VOLUME CONTROL key**

⓫ **SETUP key** – 35
Use to select the surround sound settings.

⓬ **MONITOR key** – 38

⓭ **Input selector keys** – 17
Use to select the receiver's input source.

Make connections as shown below.
When connecting the related system components, be sure to also refer to the instruction manuals supplied with the components you are connecting.
Do not connect the power cord to a wall outlet until all connections are completed.

Microcomputer malfunction

If operation is not possible or an erroneous display appears, even though all connections have been made properly, reset the microcomputer referring to "In case of difficulty". →28

Caution regarding placement (Except for U.S.A. and Canada)

To maintain proper ventilation, be sure to leave a space around the unit (from the largest outer dimensions, including projections) equal to, or greater than shown below.

Left and right panels: 10 cm, Rear panel: 10 cm, Top panel: 50 cm

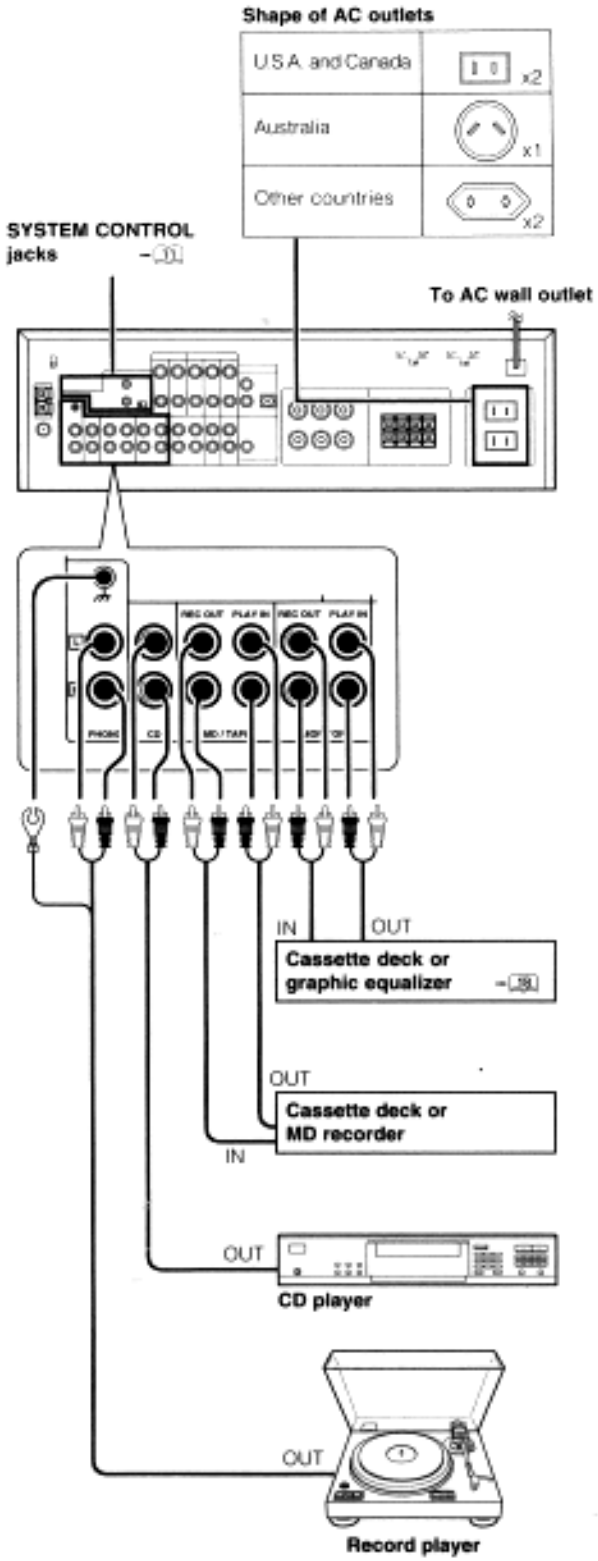
DTS disclaimer clause (only for VR-309, KRF-V8020D)

DTS Digital Surround™ is a discrete 5.1 channel digital audio format available on CD, LD, and DVD software which consequently cannot be decoded and played back inside most CD, LD, or DVD players. For this reason, when DTS-encoded software is played back through the analog outputs of the CD, LD, or DVD player, excessive noise will be exhibited. To avoid possible damage to the audio system, proper precautions should taken by the consumer if the analog outputs are connected directly to an amplification system. To enjoy DTS Digital Surround™ playback, an external 5.1 channel DTS Digital Surround™ decoder system must be connected to the digital output (S/P DIF, AES/EBU, or TosLink) of the CD, LD, or DVD player.

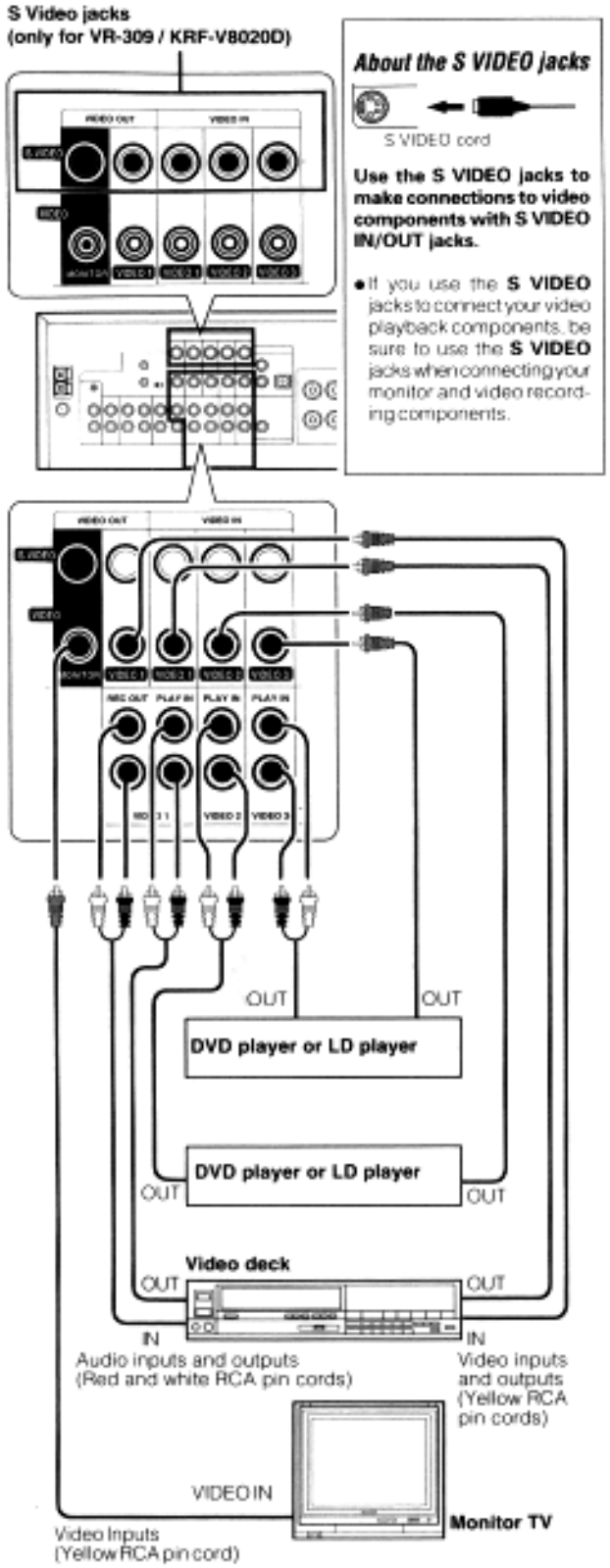
Notes

1. Be sure to insert all connection cords securely. If their connections are imperfect, the sound may not be produced or noise may interfere.
2. Be sure to remove the power cord from the AC outlet before plugging or unplugging any connection cords. Plugging / unplugging connection cords without disconnecting the power cord can cause malfunctions and may damage the unit.
3. Do not connect power cords from components whose power consumption is larger than what is indicated on the AC outlet at the rear of this unit.

Connecting audio components



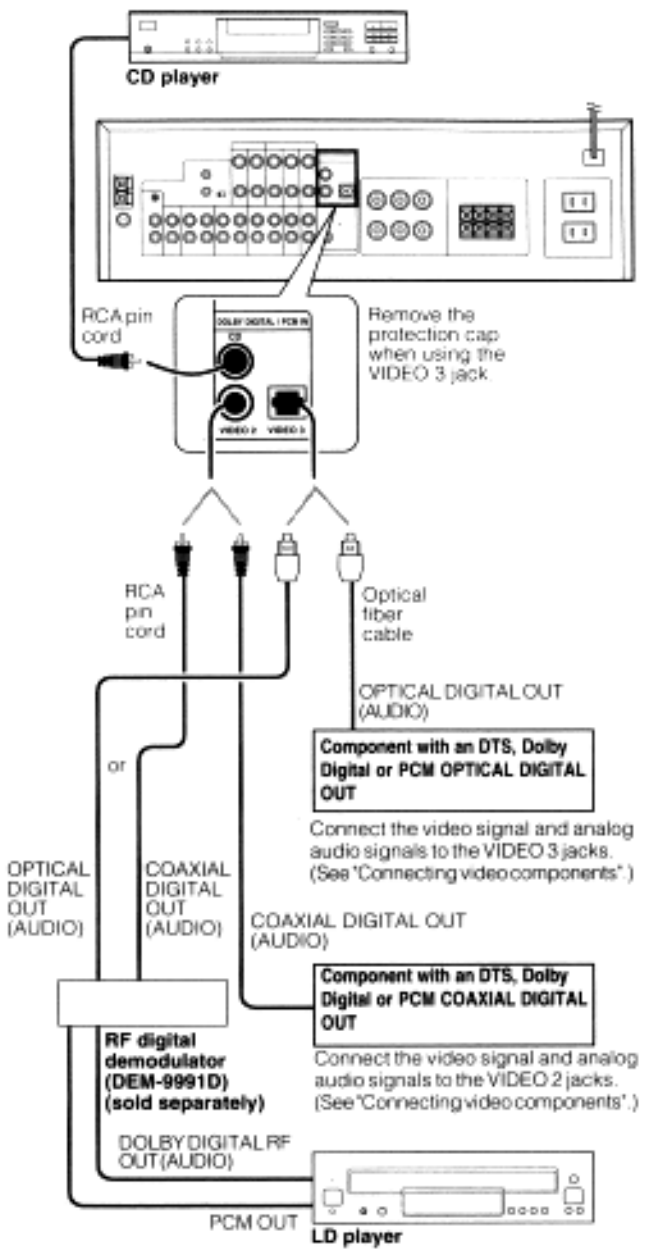
Connecting video components


S Video jacks
(only for VR-309 / KRF-V8020D)
About the S VIDEO jacks
S VIDEO cord
Use the S VIDEO jacks to make connections to video components with S VIDEO IN/OUT jacks.
● If you use the S VIDEO jacks to connect your video playback components, be sure to use the S VIDEO jacks when connecting your monitor and video recording components.
OUT
OUT
DVD player or LD player
DVD player or LD player
OUT
OUT
Video deck
OUT
OUT
IN
IN
Audio inputs and outputs
(Red and white RCA pin cords)
Video inputs and outputs
(Yellow RCA pin cords)
VIDEO IN
Monitor TV
Video Inputs
(Yellow RCA pin cord)

A video component with digital audio outputs should be connected to the VIDEO2 or VIDEO3 jacks.

Digital connections

The digital in jacks can accept DTS, Dolby Digital (AC-3) or PCM signals. Connect components capable of outputting DTS, Dolby Digital (AC-3) or standard PCM (CD) format digital signals.

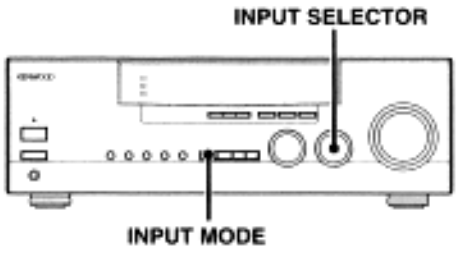

CD player
RCA pin cord
Remove the protection cap when using the VIDEO 3 jack
RCA pin cord
Optical fiber cable
OPTICAL DIGITAL OUT (AUDIO)
or
Component with an DTS, Dolby Digital or PCM OPTICAL DIGITAL OUT
Connect the video signal and analog audio signals to the VIDEO 3 jacks. (See "Connecting video components".)
OPTICAL DIGITAL OUT (AUDIO)
COAXIAL DIGITAL OUT (AUDIO)
COAXIAL DIGITAL OUT (AUDIO)
Component with an DTS, Dolby Digital or PCM COAXIAL DIGITAL OUT
RF digital demodulator (DEM-9991D) (sold separately)
Connect the video signal and analog audio signals to the VIDEO 2 jacks. (See "Connecting video components".)
DOLBY DIGITAL RF OUT (AUDIO)
PCM OUT
LD player

To connect an LD player with a DIGITAL RF OUT, connect the LD player to the KENWOOD RF digital demodulator (DEM-9991D).
Next, connect the DIGITAL OUT jacks of the demodulator to the DIGITAL IN jacks of the receiver.
Connect the video signal and analog audio signals to the VIDEO 2 or VIDEO 3 jacks. (See "Connecting video components".)

If you have connected any digital components to the receiver, be sure to read the "Input mode settings" section on the following page carefully.

Input mode settings

CD, **VIDEO2** and **VIDEO3** inputs each include jacks for digital audio input and analog audio input.
You must select beforehand which type of input is to be used for each connected component. The initial factory setting is to use the digital audio signal for playback.
To use the analog audio input for playback instead (if, for example, you have connected a VCR to the VIDEO2 or VIDEO3 input), you must set the input mode for the corresponding input to the analog mode.
After completing connections and turning on the receiver, follow the steps below.



❶ **Use the INPUT SELECTOR knob to select CD, VIDEO2 or VIDEO3.**

❷ **Press the INPUT MODE key.**

Each press switches the setting as follows:

In DTS play mode (VR-309, KRF-V8020D)
- ❶ **D-AUTO** (digital input, auto sound)
- ❷ **D-MANUAL** (digital input, manual sound)

In other mode than DTS play mode
- ❶ **D-AUTO** (digital input, auto sound)
- ❷ **D-MANUAL** (digital input, manual sound)
- ❸ **ANALOG** (analog input, manual sound)

Digital input:
Select this setting to play digital signals from a DVD, CD, or LD player.

Analog input:
Select this setting to play analog signals from a cassette deck, VCR, or turntable.

Auto sound:
In the auto sound mode (**AUTO SOUND** indicator lights), the receiver selects the listening mode automatically during playback to match the type of input signal (Dolby Digital, PCM, DTS) and the speaker setting.
The initial factory setting is auto sound on.
To keep the receiver set to the currently selected listening mode, use the **INPUT MODE** key to select "**D-MANUAL**" (manual sound).
However, even when this setting is selected, there may be cases in which the listening mode is selected automatically to match a Dolby Digital source signal depending on the combination of listening mode and source signal.

Connecting the antennas

Antenna terminal connections

❶ **Push lever.** ❷ **Insert cord.** ❸ **Return lever.**

AM loop antenna

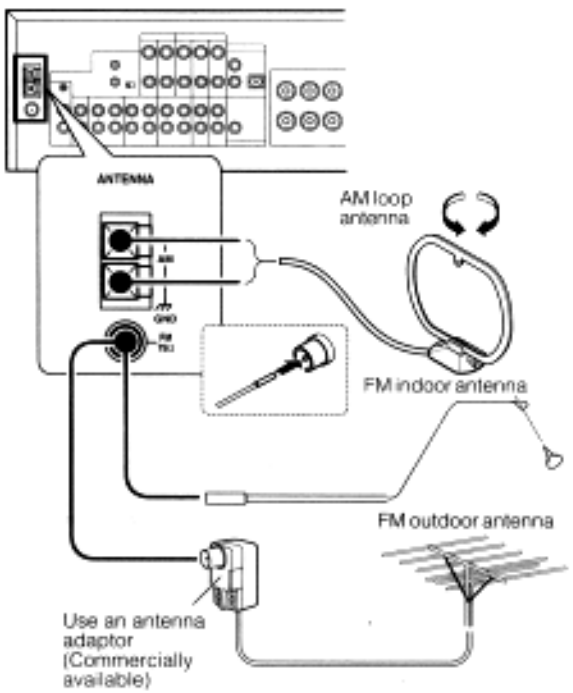
The supplied loop antenna is for use indoors. Place it as far as possible from the receiver, TV set, speaker cords and power cord, and adjust the direction for best reception.

FM indoor antenna

The supplied indoor antenna is for temporary use only. For stable signal reception we recommend using an outdoor antenna. Disconnect the indoor antenna when you connect one outdoors.

FM outdoor antenna

Lead the 75Ω coaxial cable connected to the FM outdoor antenna into the room and connect it to the **FM 75Ω** terminal.

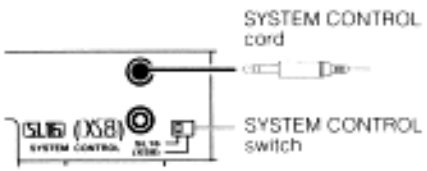


Connecting the system control

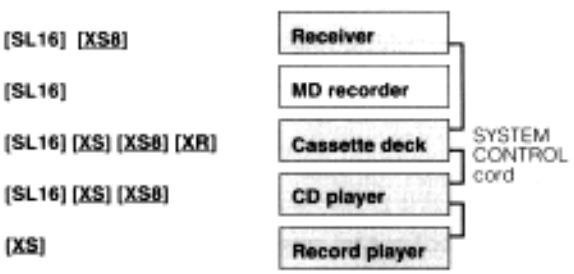
Connecting system control cords after connecting a KENWOOD audio component system lets you take advantage of convenient system control operations.
There are two KENWOOD system control modes. Make connections according to the groups of terminal symbols shown below.

[XS8] Mode : lets you combine [XS], [XS8], and [XR] terminals
[SL16] Mode : for [SL16] terminals only

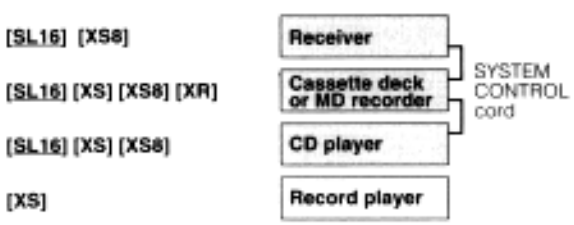
This unit is compatible with both [XS8] and [SL16] modes. It comes from the factory set to the [SL16] mode. To switch to the [XS8] mode, follow the instructions in "SWITCHING FROM [SL16] TO [XS8]" below.



EXAMPLE: [XS8] mode connections
The underlined portion represents the setting of the system control mode.



EXAMPLE: [SL16] mode connections
The underlined portion represents the setting of the system control mode.



- In order to take advantage of the system control operations, the components must be connected to the correct jacks. To use a CD player it must be connected to the CD jacks. To use a cassette deck (or MD recorder) it must be connected to the MD/TAPE jacks. When using more than one CD player (etc.) only the one connected to the specified jacks may be connected for system control.
- Some CD players and cassette decks are not compatible with the [SL16] system control mode. Be sure to use the [XS8] system control mode when making system connections with equipment that is not [SL16] compatible.
- Some MD players are not system control compatible. You cannot make system control connections to this kind of equipment.

Notes
1. [SL16] equipment cannot be combined with [XR], [XS], and [XS8] equipment for system operations. If your equipment consists of this kind of combination, please do not connect any system control cords. Even without system control cords, normal operations can be carried out without effecting performance.
2. Do not connect system control cords to any components other than those specified by KENWOOD. It may cause a malfunction and damage your equipment.
3. Be sure the system control plugs are inserted all the way in to the system control terminals.

Do not connect a system control cord to a cassette deck connected to the MONITOR jacks.

SYSTEM CONTROL OPERATIONS

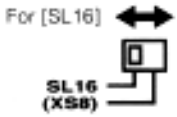
Remote Control
Lets you operate this unit with the system remote supplied with the receiver.

Automatic Operation (except [XR] equipment)
When you start playback from a source component, the input selector on this unit switches to that component automatically.

Synchronized Recording (except [XR] equipment)
Lets you synchronize recording with the start of playback when recording from CD, MD or analog discs.

SWITCHING FROM [SL16] TO [XS8]

You can easily change the system control mode by adjusting the position of the SYSTEM CONTROL switch on the rear panel.
Do this operation after completing all connections.



- This operation will not effect items stored in the memory.
- After switching the system control mode, turn the power off and unplug the power cord from the wall outlet, then plug it back.

Registering setup codes for KENWOOD audio components

- Once you finish making the system connections, be sure to register the appropriate setup code for each component. RC-3
- If you own remote controllable KENWOOD audio components that are not compatible with system control (or cannot be combined with your other system control components), registering the setup code enables you to control those components using the remote control supplied with this unit (without connecting system control cords). To register setup codes for your remote controllable KENWOOD audio components, see "Registering setup codes for other components". RC-3

VR-309/307/305/KR-V802D/V702CD (En/K/M)

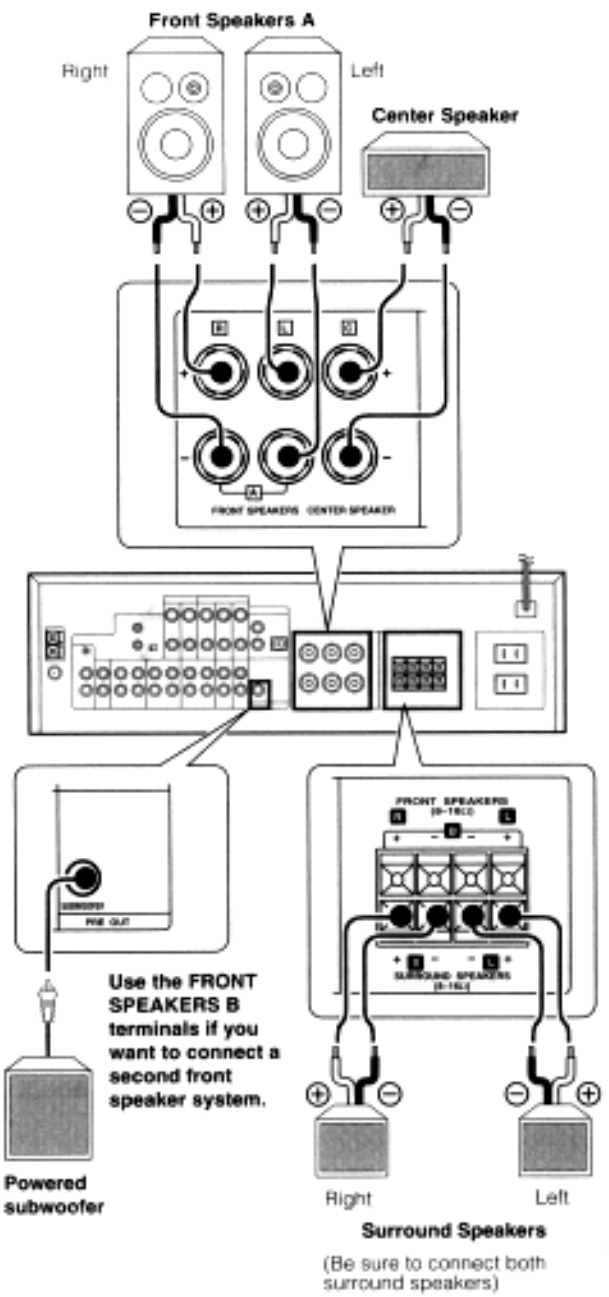
Connecting the speakers

❶ Strip coating.

❷ Loosen.

❸ Insert.

❹ Secure.



Connection of banana plugs (For U.S.A. and Canada)

❶ Secure.

❷ Insert.

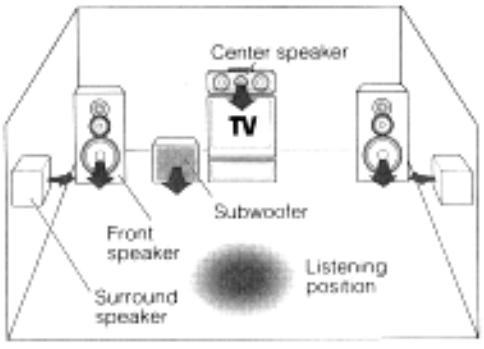
• Sound will not be heard if the speaker terminal is not fully secured.

- Never short circuit the + and – speaker cords.
- If the left and right speakers are connected inversely or the speaker cords are connected with reversed polarity, the sound will be unnatural with ambiguous acoustic imaging. Be sure to connect the speakers correctly.

Speaker impedance

After confirming the speaker impedance indications printed on the rear panel of the receiver, connect speakers with matching impedance ratings. Using speakers with a rated impedance other than that indicated on the rear panel of the receiver could result in malfunctions or damage to the speakers or receiver.

Speaker placement



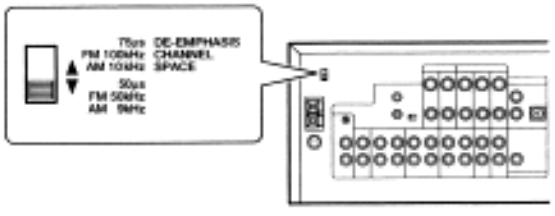
Front speakers : Place to the front left and right of the listening position. Front speakers are required for all surround modes.
Center speaker : Place front and center. This speaker stabilizes the sound image and helps recreate sound motion. Be sure to connect a center speaker when using the Dolby 3 Stereo mode.
Surround speakers : Place to the direct left and right, or slightly behind, the listening position at even heights, approximately 1 meter above the ears of the listeners. These speakers recreate sound motion and atmosphere. Required for surround playback.
Subwoofer : Reproduces powerful deep bass sounds.

- Although the ideal surround system consists of all the speakers listed above, if you don't have a center speaker or a subwoofer, you can divide those signals between the available speakers in the speaker settings steps to obtain the best possible surround reproduction from the speakers you have available. →15

Channel space switching
(Except for the USA, Canada, UK, Europe and Australia)

The space between radio channels has been set to the one that prevails in the area to which the system is shipped. However, if the current channel space setting does not match the setting in the area where the system is to be used, for instance when you move from area 1 or area 2 shown in the following table or vice versa, proper reception of AM/FM broadcasts cannot be expected. In this case, change the channel space setting in accordance with your area by referring to the following table.

	Area	CHANNEL Space Frequency
1	USA, Canada and South American countries	FM: 100 kHz AM: 10 kHz
2	Other countries	FM: 50 kHz AM: 9 kHz



Move switch lever to match your area with a small screwdriver or other pointed tool.

Preparing the remote control (RC-R0608)

Loading the batteries

❶ Remove the cover.

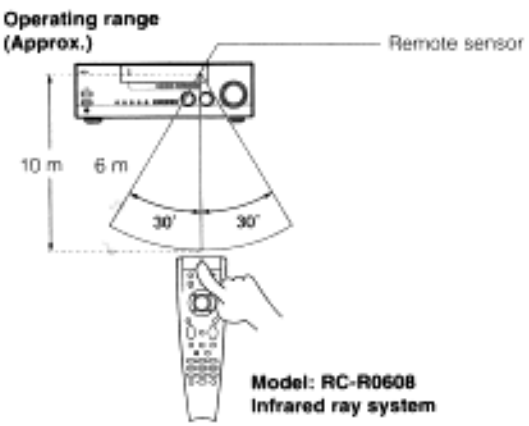
❷ Insert the batteries.

❸ Close the cover.

• Insert four AAA-size (LR03) batteries as indicated by the polarity markings.

Operation

When the STANDBY indicator is lit, the power turns ON when you press the POWER key on the remote control. When the power comes ON, press the key you want to operate.



• When pressing more than one remote control key successively, press the keys securely by leaving an interval of 1 second or more between keys.

Notes

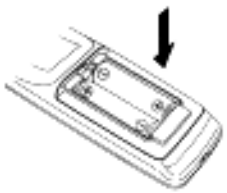
1. The supplied batteries may have shorter lives than ordinary batteries due to use during operation checks.
2. Replace all four batteries with new ones when you notice a shortening of the distance from which the remote control will operate or if the remote control blinks 5 times when you press a key. The remote control is designed to retain set up codes in memory while you change batteries.
3. Placing the remote sensor in direct sunlight, or in direct light from a high frequency fluorescent lamp may cause a malfunction.
   In such a case, change the location of the system installation to prevent malfunction.

Preparing the remote control (RC-R0712)

Loading the batteries

❶ Remove the cover.

❷ Insert the batteries.

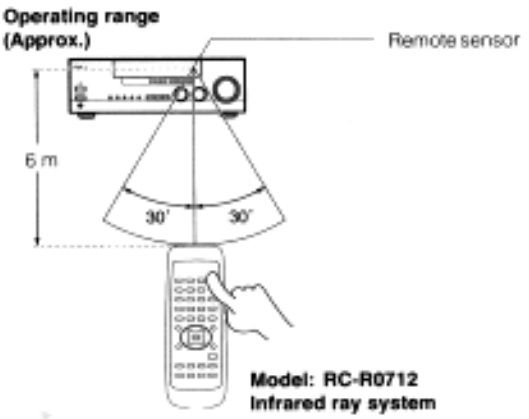


❸ Close the cover.

• Insert two AA-size (R6) batteries as indicated by the polarity markings.

Operation

When the STANDBY indicator is lit, the power turns ON when you press the POWER key on the remote control. When the power comes ON, press the key you want to operate.



• When pressing more than one remote control key successively, press the keys securely by leaving an interval of 1 second or more between keys.

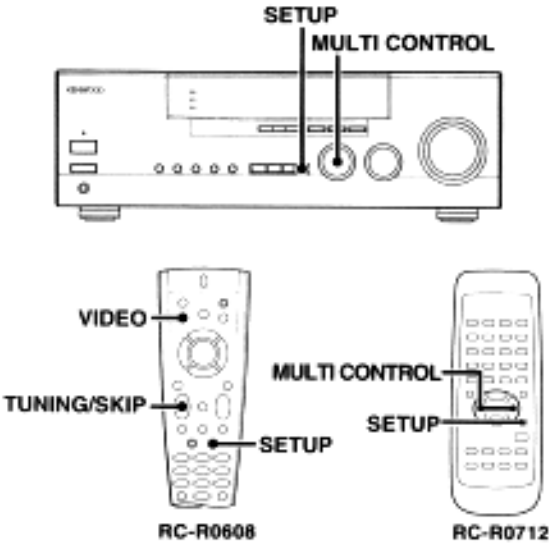
Notes

1. The supplied batteries may have shorter lives than ordinary batteries due to use during operation checks.
2. When the remote-controllable distance gets shorter than before, replace both batteries with new ones.
3. Placing the remote sensor in direct sunlight, or in direct light from a high frequency fluorescent lamp may cause a malfunction.
   In such a case, change the location of the system installation to prevent malfunction.

VR-309/307/357/KRF-V8020D/V7020D (En/KM)

Speaker settings

To enable you to obtain optimum enjoyment from the receiver's listening modes, make sure to complete the speaker settings as described below.

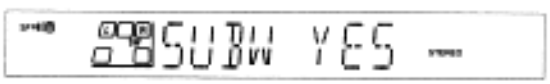


1 Turn on the receiver.

– 16

2 Select a speaker system.

❶ Press the SETUP key to make the subwoofer setting indication (SUBW) appear.

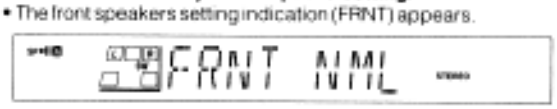


❷ Use the MULTI CONTROL (TUNING/SKIP) to select the appropriate subwoofer setting.

- **❶ SUBW YES:** A subwoofer is connected to the receiver.
- **❷ SUBW NO:** No subwoofer is connected to the receiver.

• When the setting "SUBW NO" is selected, the front speakers automatically are set to "Large" and the procedure skips to step ❻.

❸ Press the SETUP key to accept the setting.
• The front speakers setting indication (FRNT) appears.



❹ Use the MULTI CONTROL (TUNING/SKIP) to select the appropriate front speakers setting.

- **❶ FRNT NML** (normal): Average size front speakers are connected to the receiver
- **❷ FRNT LRG** (large): Large front speakers are connected to the receiver.

❺ Press the SETUP key to accept the setting.
• The center speaker setting indication (CNTR) appears.

❻ Use the MULTI CONTROL (TUNING/SKIP) to select the appropriate center speaker setting.

If you selected "LRG" as the front speakers setting.

- **❶ CNTR NML** (normal): An average size center speaker is connected to the receiver.
- **❷ CNTR LRG** (large): A large center speaker is connected to the receiver.
- **❸ CNTR NO:** No center speaker is connected to the receiver.

If you selected "NML" as the front speakers setting.

- **❶ CNTR YES:** A center speaker is connected to the receiver.
- **❷ CNTR NO:** No center speaker is connected to the receiver.

❼ Press the SETUP key to accept the setting.
• The surround speaker setting indication (SURR) appears.

❽ Use the MULTI CONTROL (TUNING/SKIP) to select the appropriate surround speaker setting.

If you selected "LRG" as the center speaker setting.

- **❶ SURR NML** (normal): Average size surround speakers are connected to the receiver.
- **❷ SURR LRG** (large): Large surround speakers are connected to the receiver.
- **❸ SURR NO:** No surround speakers are connected to the receiver.

If you selected other than "LRG" as the center speaker setting.

- **❶ SURR YES:** Surround speakers are connected to the receiver.
- **❷ SURR NO:** No surround speakers are connected to the receiver.

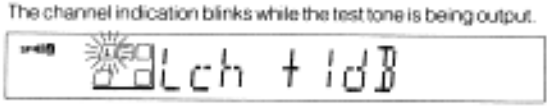
❾ Press the SETUP key to accept the setting.
• The receiver enters the speaker volume level adjustment mode.
• In steps ❷ and ❽, indications appear only for the selected channels of the speakers that require adjusting.

3 Adjust the volume levels for the speakers.

Sit in your normal listening position and listen to the test tone. Adjust the volume levels for the speakers until all speakers seem to be equally loud.

❶ Use the MULTI CONTROL (TUNING/SKIP) to adjust the volume when the test tone is being output from the speaker channel to be adjusted.

The channel indication blinks while the test tone is being output.



The test tone issues from the speakers for 2 seconds at a time in the following sequence:
Lch → Cch → Rch → RS → LS → SW → Lch

• If you change the volume level settings for the speakers while listening to music, the settings referred to on this page are also changed.
– 28

• If the speaker setting selects are changed, the speaker level settings are reset.

❷ Press the SETUP key.

• The receiver enters the mode for inputting the distance to the speakers.

Continued to next page

4 Input the distance to the speakers.

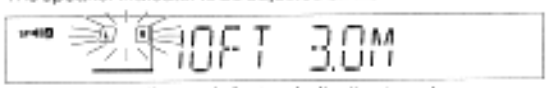
❶ Measure the distance from the listening position to each of the speakers.

Jot down the distance to each of the speakers.

Distance to front speakers: ____feets (meters)
Distance to center speaker: ____feets (meters)
Distance to surround speakers: ____feets (meters)

❷ Use the MULTI CONTROL (TUNING/SKIP) to select the distance to the front speakers.

The speaker indicator to be adjusted blinks.



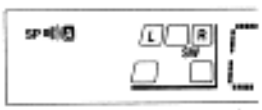
Indication in feet Indication in meters

- The allowable setting range is 1 to 30 feet (0.3 to 9.0 m), adjustable in 1 foot (0.3 m) increments.

❸ Press the SETUP key.

❹ Repeat steps ❷ and ❸ to input the distance for each of the speakers.

❺ Setup is complete when the input indication reappears.



Display when all speakers have been selected.

- The speakers you selected appear on the display. Confirm that all the speakers have been correctly selected.
- If you used the remote control to perform the settings, press the **VIDEO** key at this point to turn off the remote control's own adjustment mode. In this case, the input source is not switched.

Input level adjustment (analog sources only)

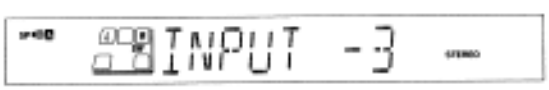
If the input level of an analog source signal is too high or the receiver's **CLIP INDICATOR** lights, adjust the input level.

❶ Use the INPUT SELECTOR knob to select the source who's input level you want to adjust.

- You can store a separate input level for each input source. If the MONITOR function is on, you can store an input level for when MONITOR is on independently of the input levels for the input sources.

❷ Press the SOUND key several times until the "INPUT" indication appears.

❸ Use the MULTI CONTROL (TUNING/SKIP) to adjust the input level so that the CLIP INDICATOR no longer lights.



- The adjustment mode is displayed for approximately eight seconds.
- The input level may be adjusted to any one of three settings: 0, -3, and -6. (The initial setting is 0.)

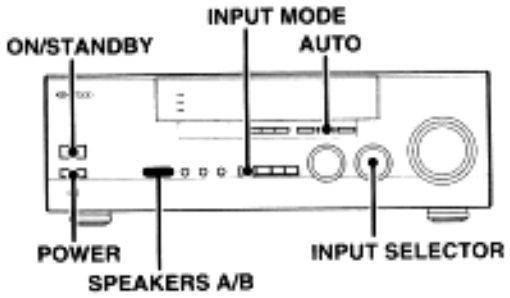
❹ Press the SOUND key to return to the input indication.

- If you used the remote control to perform the above setting, press the **VIDEO** key at this point to turn off the remote control's own adjustment mode. In this case, the input source is not switched.

VR-309/307/357/RF-V8C20D/V7020D (En/KM)

Preparing for playback

Some preparatory steps are needed before starting playback.



Turning on the receiver

❶ Turn on the power to the related components.

❷ Turn on the power to this receiver by pressing POWER (and ON/STANDBY) key(s).

Selecting TAPE/MD

Select the source name corresponding to the component connected to the MD/TAPE jacks. The initial factory setting is "**TAPE**". To change the source name associated with the MD/TAPE jacks to "**MD**," follow the steps below.

❶ Use the INPUT SELECTOR knob to select "TAPE".

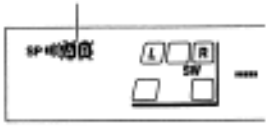
❷ Hold down the AUTO key for more than 2 seconds.

- The source indication changes to "**MD**".
- To return to the original indication, repeat the above procedure.
- You also will need to change the name input to the remote control to "**MD**". **RC** → 3

A ON : Sound from the speakers connected to the SPEAKERS A terminals on the rear panel.
B ON : Sound from the speakers connected to the SPEAKERS B terminals on the rear panel.
A+B ON : Sound from both the speakers connected to the SPEAKERS A and B terminals on the rear panel.
A+B OFF : No sound from the speakers. Use this setting when listening with headphones for stereo sound and virtual surround in all playback modes.

- If you activate a surround mode, speaker system A is selected automatically.

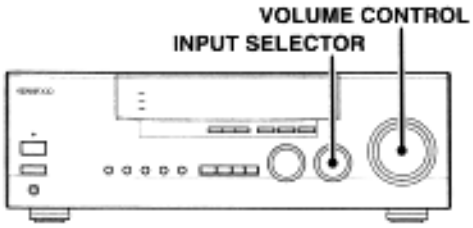
The indicator for the speakers you want to use should be lit.

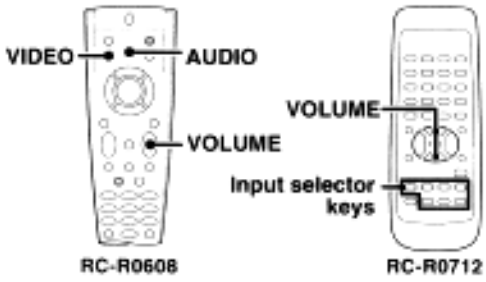


Selecting the input mode

If you have selected a component connected to the **CD, VIDEO2** or **VIDEO3** jacks, make sure that the input mode setting is correct for the type of audio signal to be used. → 9

Listening to a source component





1 *Use the input selector (INPUT SELECTOR (AUDIO, VIDEO)) to select the source you want to listen to.*

The input sources change as shown below:

Selecting a source using the INPUT SELECTOR knob

❶ TUNER
❷ "CD" ("CD"*)
❸ "TAPE" or "MD" ("TAPE"*)
❹ "PHONO"("PHONO"*)
❺ "VIDEO1" ("VCR1"*)
❻ "VIDEO2" ("VCR2"*)
❼ "VIDEO3" ("DVD"*)

Selecting a source using the AUDIO key on the remote control

❶ "CD" ("CD"*)
❷ "TAPE" or "MD" ("TAPE"*)
❸ TUNER
❹ "PHONO"("PHONO"*)

Selecting a source using the VIDEO key on the remote control

❶ "VIDEO1" ("VCR1"*)
❷ "VIDEO2" ("VCR2"*)
❸ "VIDEO3" ("DVD"*)

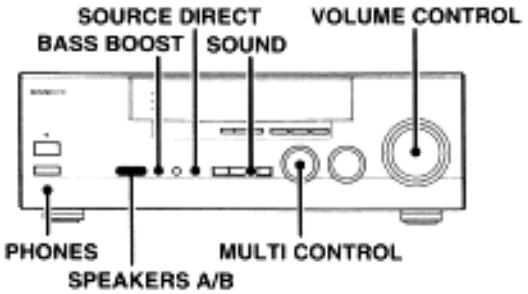
* Once setup codes are registered in the remote control, the input name display changes according to the name of the registered component.
Example: if you register a VCR at the VIDEO 1 jacks, "**VCR**" appears instead of "**VIDEO 1**". **RC-**3

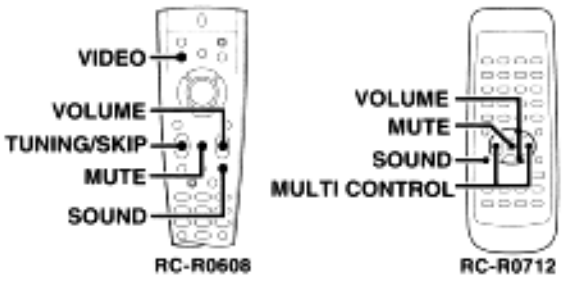
- When using the remote control after initial setup, any inputs that have not been registered with a setup code are deleted from the cyclic list. **RC-**4
- The **INPUT SELECTOR** on the front panel of the receiver always cycles through all inputs.

2 *Start playback from the selected source.*

3 *Use the VOLUME CONTROL (VOLUME) to adjust the volume.*

Adjusting the sound



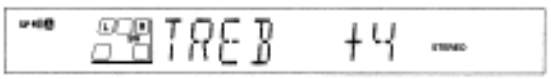


Adjusting the tone

You can adjust the sound quality when the receiver is in the PCM stereo and analog stereo mode.

❶ **Press the SOUND key to select the tone mode to be adjusted.**

BASS: Select this to adjust the low frequency range. (Press the **SOUND** key once.)
TREB: Select this to adjust the high frequency range. (Press the **SOUND** key twice.)



❷ **Use the MULTI CONTROL (TUNING/SKIP) to adjust the sound quality.**

- The bass and treble levels are adjustable from -10 to +10 in 2 step increments.
- The adjustment item is displayed for approximately 8 seconds.
- If you used the remote control to perform the above setting, press the **VIDEO** key at this point to turn off the remote control's own adjustment mode. In this case, the input source is not switched.

Once-touch low frequency emphasis (bass boost)

You can adjust the sound quality when the receiver is in the PCM stereo and analog stereo mode.

Press the BASS BOOST key.

- Press the key once to select the maximum (+10) low frequency emphasis setting.
- This key does not function when the receiver is in the sound quality or ambience effects adjustment mode.

Switching back to the previous setting

Press the BASS BOOST key again.

Muting the sound

MUTE lets you mute the sound of the speakers.

Press the MUTE key.

Blinks

To cancel

Press the MUTE key again so that the "MUTE" indicator goes off.

- Muting can also be cancelled by adjusting the volume.

SOURCE DIRECT playback (analog sources only)

Use this function to pass the source material direct to the amplifier, bypassing any audio processing.

Press the SOURCE DIRECT key.

- Either press the **LISTEN MODE**, **SOUND**, and **SETUP** keys, or switch to another input source to cancel SOURCE DIRECT playback.

To cancel

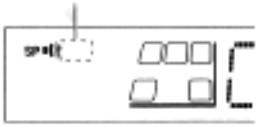
Press again.

- If SOURCE DIRECT playback was activated when using a surround mode, cancelling it reactivates the previous surround mode.

Listening with headphones

❶ Press the SPEAKERS A or B key so that the speaker indicator goes off.

Make sure the SPEAKERS indicators are turned off.



- If you turn off all of the speakers when in the surround mode, the mode is cancelled as well, resulting in stereo playback.

❷ Connect headphones to the PHONES jack.

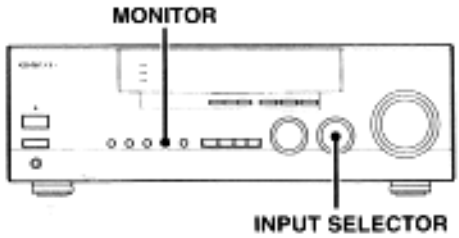
❸ Use the VOLUME CONTROL (VOLUME) to adjust the volume.

To adjust the balance

Use the test tone feature. – 15 - E

VR-309/307/257/RF-V8C203/V7C20D [En/KM]

Recording audio (analog sources)



Recording a music source

❶ Use the input selector to select the source (other than "TAPE") you want to record.

❷ Set the cassette deck to record.

❸ Start playback, then start recording.

Copying tapes

MONITOR → TAPE copying

❶ Press the MONITOR key.

❷ Use the input selector to select a source other than "TAPE."

❸ Start playback on the cassette deck connected to the MONITOR jacks and start recording on the cassette deck connected to the MD/TAPE jacks.

TAPE → MONITOR copying

❶ Use the input selector to select "TAPE."

❷ Start playback on the cassette deck connected to the MD/TAPE jacks and start recording on the cassette deck connected to the MONITOR jacks.

- To copy tapes using a double cassette deck, refer to the instruction manual of the double cassette deck.

MONITOR function (analog sources only)

You can connect a cassette deck or graphic equalizer to the MONITOR jacks of the receiver. If a graphic equalizer is connected, the **MONITOR** key should be left in the on position. Alternately, if a cassette deck equipped with a 3-head system is connected to the MONITOR jacks, you will be able to monitor the just-recorded signal while making recordings on the cassette deck. By switching the **MONITOR** key on and off, you can compare the sound of the source signal and the just-recorded signal. For more information, refer to the instruction manual of the connected component.

Recording video

❶ **Use the input selector to select the video source (other than "VIDEO1") you want to record.**

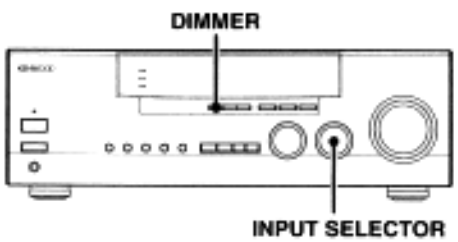
❷ **Set the video deck connected to VIDEO 1 to record.**
- Select the REC MODE to record a digital input source.

❸ **Start playback, then start recording.**
- With certain video software, recording may not be normal due to the copy guard condition. – 28

Recording audio (digital sources)

Switch on the **REC MODE** to record a digital input source.
Usually use the **AUTO REC MODE** to record audio input sources.
When the digital mode changes during recording in the **AUTO REC MODE**, the audio may be interrupted momentarily. To record the audio from the beginning of the digital mode change, use the **MANUAL REC MODE**.
With a model that is not compatible with DTS, no audio is reproduced even when the DTS signals are input.

Recording music in AUTO REC MODE



❶ **Use the input selector to select the source (CD, VIDEO2 or VIDEO3) you want to record.**

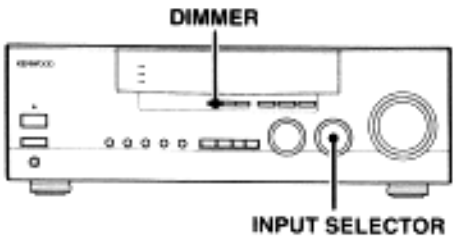
❷ **Set the cassette deck to record.**

❸ **Select the AUTO REC MODE.**
Press and hold the DIMMER key for more than 2 seconds. The mode changes every 2 seconds as shown below.

- REC MODE off : The digital input record mode is switched off.
- AUTO REC MODE : The digital input signals (DTS, Dolby Digital or PCM) are identified automatically and converted into stereo signals that are ready for recording.
- MANUAL REC MODE : The input signal type at the moment this mode is selected is held throughout this mode.

❹ Start playback, then start recording.

Recording music in MANUAL REC MODE



❶ **Use the input selector to select the source (CD, VIDEO2 or VIDEO3) you want to record.**

❷ **Set the cassette deck to record.**

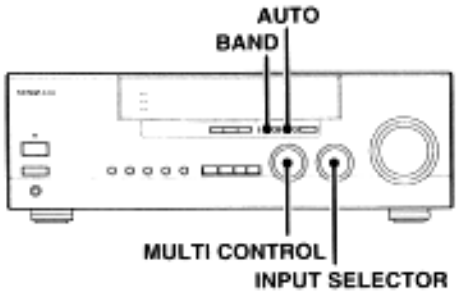
❸ **Play the source to be recorded.**

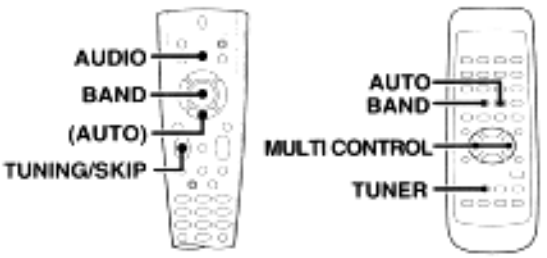
❹ **Select the MANUAL REC MODE.**
Press and hold the DIMMER key for more than 2 seconds. The mode changes every 2 seconds as shown below.

- REC MODE off : The digital input record mode is switched off.
- AUTO REC MODE : The digital input signals (DTS, Dolby Digital or PCM) are identified automatically and converted into stereo signals that are ready for recording.
- MANUAL REC MODE : The input signal type at the moment this mode is selected is held throughout this mode.

❺ **Play the source from the beginning and start recording.**
- If the audio reproduction stops in the middle due to change in the input signals, etc., press the DIMMER key.

Tuning radio stations





RC-R0608 RC-R0712

1 ***Use the input selector to select the tuner.***

2 ***Use the BAND key to select the desired broadcast band.***

Each press switches the band as follows:

❶ **FM**
❷ **AM**

"**AM**" or "**FM**" indicator

3 ***Use the AUTO key to select the desired tuning method.***

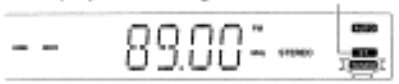
Each press switches the tuning method as follows:

❶ **AUTO lit** (auto tuning)
❷ **AUTO not lit** (manual tuning)

- Normally, set to "**AUTO**" (auto tuning). If the radio waves are weak and there is a lot of interference, switch to manual tuning. (With manual tuning, stereo broadcasts will be received in monaural.)

4 ***Use the MULTI CONTROL (TUNING/SKIP) to select the station.***

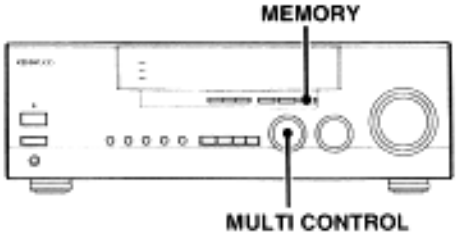
Frequency display — Lights when a broadcast is being received in stereo.



"**TUNED**" is displayed when a station is received

Auto tuning : The next station is tuned automatically.
Manual tuning : Turn the knob (press the key) to select the desired station.

Presetting radio stations manually



1 ***Tune to the station you want to store.***

2 ***Press the MEMORY key while receiving the station.***

Blinks for 5 seconds — Lights for 5 seconds

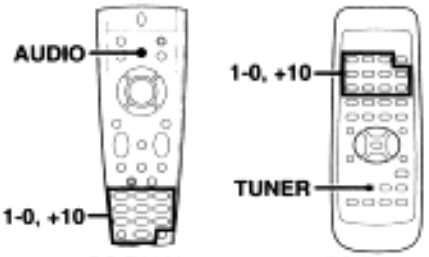
Proceed to step ❸ within 5 seconds.
(If more than 5 seconds elapse, press the MEMORY key again).

3 ***Use the MULTI CONTROL to select one of the station presets (1 – 40).***

4 ***Press the MEMORY key to accept the setting.***

- Repeat steps ❶, ❷, ❸ and ❹ to store as many stations as necessary.
- If you store a station at a previously used preset, the old station will be replaced by the new one.

Receiving preset stations



RC-R0608 RC-R0712

1 ***Use the remote control to select the tuner as the source.***

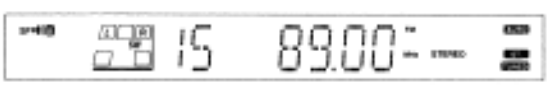
- The remote control switches to the tuner operating mode.

2 ***Enter the number of the preset you want to receive (up to "40").***

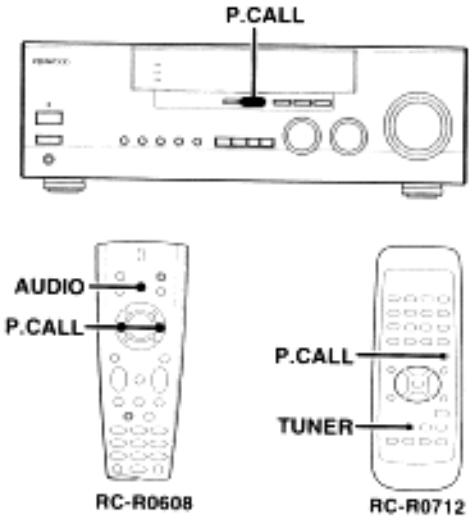
Press the numeric keys in the following order:

For "15", press ..... [+10], [5]
For "20", press ..... [+10], [+10], [0]

- If you make a mistake entering a two digit number, press the **+10** key several times to return to the original display and start again.



Receiving preset stations in order (P.CALL)



1 ***Use the remote control to select the tuner as the source.***

- The remote control switches to the tuner operating mode

2 ***Use the P.CALL key to select the desired station.***

- Each time you press the key, another preset station is received in order.

Pressing the P.CALL (△) key (▶▶|) does the following:
01→02→03→ ..... 38→39→40→01→02→03→

Pressing the P.CALL (▽) key (|◀◀) does the following:
01←02←03← ..... 38←39←40←01←02←03←

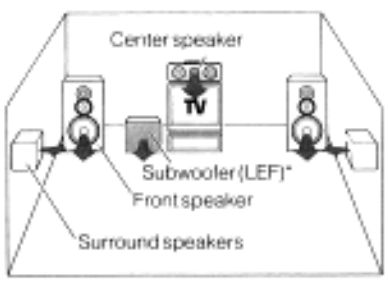
Holding down the key, lets you skip through the presets, receiving each for 0.5 seconds apiece.

This receiver is equipped with listening modes that allow you to enjoy an enhanced sonic ambience with a variety of video sources.
In order to obtain the optimum effect from the surround modes, make sure to input the proper speaker settings beforehand. – 19

Surround modes

DTS

The DTS multi-channel audio format is available on CD, LD and DVD software. DTS is a strictly digital format and can not be decoded inside most CD, LD or DVD players. For this reason, if you attempt to listen to DTS encoded software through the analog output of your new CD, LD or DVD player, you will experience digital noise in most cases. This noise can be quite loud if the analog output is connected directly to a high power amplification system. Proper measures for playing the digital output as described below should be taken to avoid this situation. To enjoy DTS Digital Surround playback, an external 5.1 channel DTS Digital Surround decoder system or an amplifier with a built-in DTS Digital Surround decoder must be connected to the digital output (S/P DIF, AES/EBU or TosLink) of a CD, LD or DVD player.
VR-309 and KRF-8020D are incorporate the DTS decoder.



* Optional in this mode.

* LFE = Low Frequency Effects. This channel delivers separate non-directional bass signals to the subwoofer for more dynamic deep bass sound effects.
DTS has a .1 or LFE channel.

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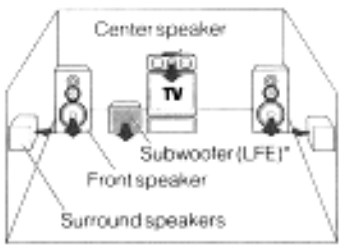
Dolby Digital (AC-3)

The Dolby Digital (AC-3) surround format lets you enjoy up to 5.1 channels of digital surround sound from Dolby Digital (AC-3) program sources (such as Laserdisc or DVD software marked DOLBY DIGITAL). Compared with previous Dolby surround, Dolby Digital (AC-3) provides even better sound quality, greater spatial accuracy, and improved dynamic range.

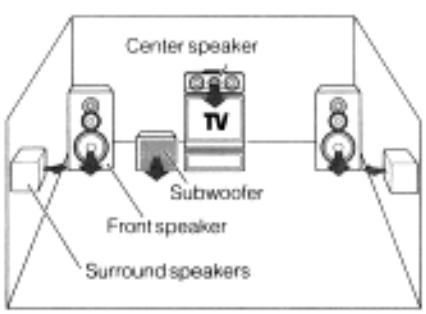
Note:
Although a full set of speakers (front left, right, and center, surround left and right, and a subwoofer) is required for true 5.1 channel Dolby Digital (AC-3) surround sound, this receiver lets you enjoy Dolby Digital (AC-3) (and Dolby Surround) program sources, even if you connect only the front speakers. ("Speaker placement") – 9



* LFE = Low Frequency Effects. This channel delivers separate non-directional bass signals to the subwoofer for more dynamic deep bass sound effects.
Although only Dolby Digital (AC-3) soundtracks incorporate a separate low frequency channel, connecting a subwoofer will also improve deep bass performance in the other surround modes.
The indication "**LFE**" appears in the display when a signal is being input for this channel.

Dolby Pro Logic

Dolby Pro Logic is a specially encoded 2 channel surround format designed to provide theater-like surround sound from Dolby Surround encoded sources (such as video and Laserdisc software marked DOLBY SURROUND). This receiver is equipped with a Dolby Pro Logic surround decoder to let you enjoy the wide variety of currently available Dolby Surround home video software.



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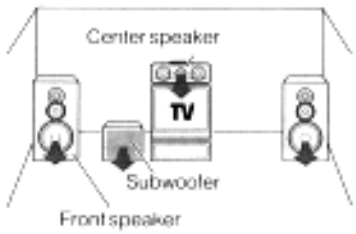
Dolby 3 Stereo

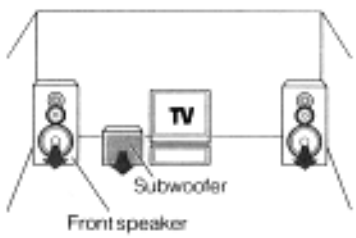
Dolby 3 Stereo is available for systems that do not have surround speakers. When in the Dolby 3 Stereo mode, the surround information is redirected to the front left and right speakers. This mode is designed for use with Dolby Surround program sources, but can also improve sound field unity for programs that are not Dolby Surround encoded. Dialog positioning and sound image definition, however, may not be as accurate when used with programs that are not Dolby Surround encoded.



VIRTUAL SURROUND

The surround signals of Dolby Digital and DTS have been designed to provide a rich feeling of presence through usually 5 loudspeakers.

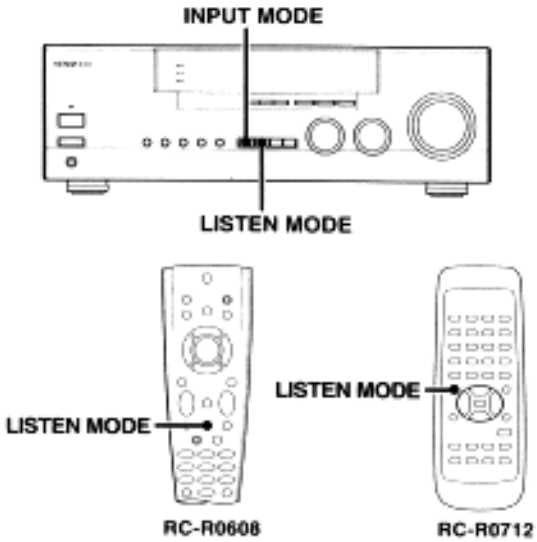
The Virtual Surround feature incorporated in this unit makes it possible to obtain a simulated surround effect using the left and right front speakers alone or using 3 speakers including the subwoofer for bass reproduction.



Surround Play

The DTS compatible models can reproduce a CD, DVD or LD carrying the DTS mark. (VR-309 and KRF-V8020D only)

DOLBY DIGITAL can be used when playing DVD or LD software bearing the DOLBY DIGITAL mark and DOLBY DIGITAL (AC-3) format digital broadcasts (etc.). DOLBY PRO LOGIC and DOLBY 3 STEREO can be used when playing video, DVD, or LD software bearing the DOLBY SURROUND mark.



Preparations

- Turn ON related components.
- Complete "Preparing for surround sound". →15
- Set the **INPUT SELECTOR** to the component you wish to play back with surround sound.
- Use the **INPUT MODE** key to select the input mode (analog or digital) for the source you wish to play back. →16
- Noise will be produced when a DTS source is played by selecting the analog input.

1 Start playing the video software.

2 Press the LISTEN MODE key to select the listening mode.

The listening mode settings are stored separately for each input. If the input mode is set to digital auto ("**AUTO SOUND**" lights), the receiver selects the optimal listening mode automatically based on the type of input signal and the speaker settings.

Each press of the LISTEN MODE key switches the setting as listed below.
Note that the only listening mode settings that can be used for playback with the current input signal type and speaker settings are available.

- **DTS**
- **DOLBY DIGITAL (AC-3)**
- **DOLBY PRO LOGIC**
- **DOLBY 3 STEREO**
- **VIRTUAL SURROUND**
- **STEREO** ニ ナ ふぃB

Example with the DOLBY PRO LOGIC mode selected

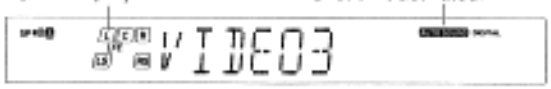
The channels from which sound will issue are displayed.

Continued to next page

Example using a Dolby Digital source signal

The source channel from which the signal is being input is displayed.

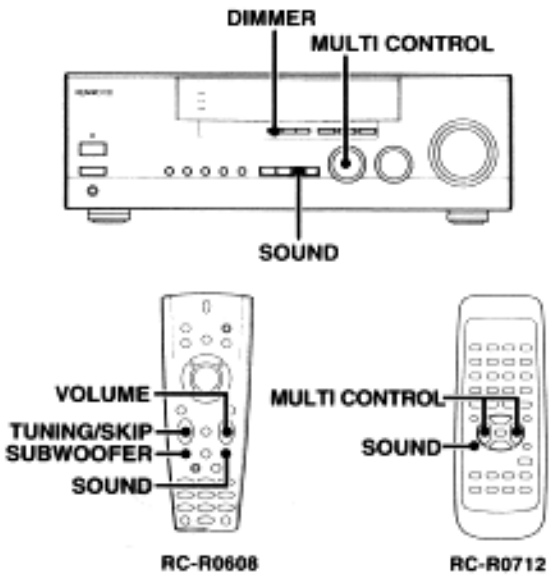
Lights when the auto sound function is activated



- When playback is started, the sound may be cut or interrupted before the input source is confirmed as Dolby Digital.
- If a Dolby Digital signal having more channels than the maximum number of playback channels available using the receiver's current settings is input, the **DOWNMIX** indicator lights on the display and downmixing is performed to match the number of available channels.
  Example: If a Dolby Digital 5.1 signal is being input and the receiver is set to the stereo mode or if the center speaker channel is turned off.

3 ***Adjust the volume.***

Convenient functions



Adjusting the sound

You can make further adjustments to the sound while listening to playback in the surround mode.

❶ Press the SOUND key to select the item you want to adjust.

Each press switches the selection as listed below.
Note that some items are not displayed in certain modes.

BASS (low frequency range sound quality adjustment) –17
TREB (high frequency range sound quality adjustment) –17
Cch (center speaker level adjustment)
RS (right surround speaker level adjustment)
LS (left surround speaker level adjustment)
SW (subwoofer level adjustment)
INPUT (input level adjustment) –16
NIGHT (midnight mode on/off) –29

❷ Use the MULTI CONTROL (TUNING/SKIP) to adjust the setting as desired.

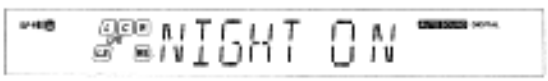
- The adjustment item is displayed for approximately 8 seconds.
- If you used the remote control to perform the above setting, press the **VIDEO** key at this point to turn off the remote control's own adjustment mode. In this case, the input source is not switched.

Midnight mode (Dolby Digital (AC-3) mode only)

When watching movies at night you might not be able to raise the volume as loud as normal. Midnight mode compresses the dynamic range of previously specified parts of the Dolby Digital (AC-3) sound track (like scenes with sudden increases in volume) to minimize the difference in volume between the specified and non-specified parts. This makes it easy to hear all of the sound track, even when listening at low volumes.

❶ Press the SOUND key several times until "NIGHT" is displayed.
- This can be selected only if CD, VIDEO2 or VIDEO3 is selected as the source and the input mode is set to digital.

❷ Use the MULTI CONTROL (TUNING/SKIP) to select the on or off setting.

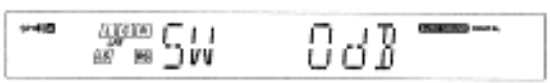


- The adjustment item is displayed for approximately 8 seconds.
- Some Dolby Digital (AC-3) software may not be compatible with the Midnight mode.
- If you used the remote control to perform the above setting, press the **VIDEO** key at this point to turn off the remote control's own adjustment mode. In this case, the input source is not switched.

SUBWOOFER adjustment

It is easy to adjust the volume of the subwoofer using the remote control.

❶ Press the SUBWOOFER key so that "SW" is displayed.



❷ Use the VOLUME key to adjust the volume.
- The adjustable range is -10 dB to +10 dB.

Display dimmer adjustent

The dimmer function lets you select the brightness of the receiver's display. You might find this useful if you darken your room to watch movies or listen to music.

Each time you press the DIMMER key, the display brightness changes among the three available settings. Select the brightness level you find most pleasing.

Note

To enjoy Dolby Digital (AC-3) surround (as well as all the other listening modes) from a single component, be sure to use a Dolby Digital (AC-3) compatible source component. Connect the Dolby Digital (AC-3) compatible source component's Dolby Digital (AC-3) format digital audio signal to one of the **DIGITAL INPUT** jacks on the back of the receiver. Connect the normal audio signal correctly to the respective component's **AUDIO** jacks. –8 –8

Resetting the Microcomputer

If the microcomputer may malfunction (unit cannot be operated, or shows an erroneous display) if the power cord is unplugged while the power is ON, or due to some other external factor. If this happens, execute the following procedure to reset the microcomputer and return the unit to its normal operating condition.

- Please note that resetting the microcomputer will clear the contents of the memory and returns the unit to the state it was in when it left the factory.

For U.S.A. and Canada

Unplug the power cord from the wall outlet, then plug it back in while holding down the POWER key.

For other countries

With the power cord plugged in, turn the POWER key OFF. Then, while holding down the ON/STANDBY key, press POWER.

Amplifier

Symptom	Cause	Remedy
No sound from the speakers.	• The speaker cords are disconnected. • VOLUME is set to the minimum position. • MUTE is ON. • The SPEAKERS switches are set to OFF.	• Connect them properly referring to "Connecting the speakers" →13 • Adjust the volume to a proper level. • Turn OFF the MUTE. →38 • Set the SPEAKERS switch(es) to ON. →38
The standby indicator blinks and sound is not output.	• Speaker cords are short-circuited.	• Turn the power off, eliminate the short-circuiting, then turn on the power again. →13
Sound is not output from one of the speakers.	• The speaker cord is disconnected.	• Connect it properly referring to "Connecting the speakers".
Sound is not output from the surround speakers and / or the center speaker, or their sound is very small.	• The surround speaker cords and/or the center speaker cord is disconnected. • A surround mode has not been engaged. • The surround and/or center volume controls are set to the minimum level.	• Connect it properly referring to "Connecting the speakers". • Select a surround mode. • Adjust the speaker levels using the test tone. →38
A humming noise is generated when the PHONO input selector is selected.	• The audio cord from the turntable is not connected to the PHONO jacks. • The turntable is not grounded.	• Insert the audio cord plugs securely into the PHONO jacks. • Connect the grounding wire to the GND terminal on the rear panel.
When playing a Dolby Digital (AC-3) source signal using a DVD player, the sound is cut off soon after it starts.	• There are many possible causes for this problem, depending on the type of DVD player used.	• Set the input mode to digital manual before starting playback of the Dolby Digital source. →39
No sound is produced during playback from a DVD player.	• The input mode is set to digital manual.	• Press the INPUT MODE key to select to digital auto mode. →39
A video source cannot be recorded normally.	• The software is copy-guarded.	• Copy-guarded video software cannot be recorded.
No audio is produced when a DTS source is played. (except for VR-309 and KRF-8020D)	• The model does not incorporate a DTS decoder.	• DTS sources cannot be reproduced with a model that does not incorporate a DTS decoder.

Tuner

Symptom	Cause	Remedy
Radio stations cannot be received.	• No antenna is connected. • The broadcast band is not set properly. • The frequency of the desired station is not tuned.	• Connect an antenna. • Set the broadcast band properly. • Tune the frequency of the desired station. →20
Interference.	• Noise due to ignition noise from an automobile. • Noise due to interference from an electric appliance. • Noise due to a nearby TV set.	• Install the outdoor antenna away from the road. • Turn off the power to the appliance. • Install the receiver farther away from the TV.
A station which was preset cannot be received by pressing the corresponding numeric key.	• The preset station belongs to a frequency that cannot be received. • The preset memory was cleared because the power cord had been unplugged for a long period of time.	• Preset a station with a receivable frequency. • Preset the station again.

For U.S.A and Canada

AUDIO section

Rated power output during STEREO operation

100 watts per channel minimum RMS, both channels driven, at 8 Ω from 40 Hz to 20 kHz with no more than 0.7% total harmonic distortion.(FTC)

Effective power output during SURROUND operation

FRONT (1kHz, 0.7% T.H.D. at 8 Ω one channel driven) ..... 100 W + 100 W

CENTER (1kHz, 0.7% T.H.D. at 8 Ω one channel driven) ..... 100 W

SURROUND (1kHz, 0.7% T.H.D. at 8 Ω one channel driven) ..... 100 W + 100 W

Total harmonic distortion ..... 0.03% (1 kHz, 50W, 8 Ω)

Frequency response

CD ..... 10 Hz ~ 85kHz, +0 dB, −3.0 dB

Signal to noise ratio (IHF'66)

PHONO (MM) ..... 75 dB

CD ..... 93 dB

Input sensitivity / impedance

PHONO (MM) ..... 2.5 mV / 27 kΩ

CD ..... 200 mV / 47 kΩ

Output level / impedance

TAPE REC ..... 200 mV / 2.2 kΩ

PRE OUT (SUBWOOFER) ..... 2 V / 2.2 kΩ

Tone control

BASS ..... ±10 dB (at 100 Hz)

TREBLE ..... ±10 dB (at 10 kHz)

DIGITAL AUDIO section

Sampling frequency ..... 32 kHz, 44.1 kHz, 48 kHz

Input level / impedance / wave length

Optical ..... -15 dBm – -21 dBm, 600 nm ±30nm

Coaxial ..... 0.5 Vp-p / 75 Ω

VIDEO section

VIDEO inputs / outputs

VIDEO (composite) ..... 1 Vp-p / 75 Ω

S VIDEO (luminance signal) ..... 1 Vp-p / 75 Ω

(chrominance signal) ..... 0.286 Vp-p / 75 Ω

FM tuner section

Tuning frequency range ..... 87.5 MHz – 108 MHz

Usable sensitivity (MONO)

..... 1.6 µV (75 Ω)/ 15.2 dBf (75 kHz DEV., SINAD 30 dB)

50dB quieting sensitivity

STEREO ..... 31.6 µV (75 Ω)/ 41.2 dBf

Total harmonic distortion (1 kHz)

MONO ..... 0.6% (65 dBf input)

STEREO ..... 0.7% (65 dBf input)

Signal to noise ratio (1 kHz, 75 kHz DEV.)

MONO ..... 75 dB (65 dBf input)

STEREO ..... 68 dB (65 dBf input)

Stereo separation (1 kHz) ..... 38 dB

Selectivity (±400 kHz) ..... 50 dB

Frequency response ..... 30 Hz ~ 15kHz, +0.5 dB, −3.0 dB

AM tuner section

Tuning frequency range

10 kHz step ..... 530 kHz – 1,700 kHz

Usable sensitivity (30% mod., S/N 20 dB)

..... 16 µV / (600 µV/m)

Signal to noise ratio (30% mod. 1 mV input) ..... 50 dB

GENERAL

Power consumption ..... 2.6 A

AC outlet

SWITCHED ..... 2 (total 150 W, 1.25 A max.)

Dimensions ..... W : 440 mm (17-5/16")

H : 144 mm (5-11/16")

D : 400 mm (15-3/4")

Weight (Net) ..... 8.6 kg (19.0 lb)

Memory back up function

Please note that the following items will be deleted from the unit's memory if the power cord is disconnected from the AC outlet for approximately 3 days.

- Power mode.
- Input selector settings.
- Volume level.
- Broadcast band.
- Frequency setting.
- Preset stations.

Notes

1. KENWOOD follows a policy of continuous advancements in development. For this reason specifications may be changed without notice.
2. The full performance may not be exhibited in an extremely cold location (under a water-freezing temperature).

For other countries

AUDIO section

Effective power output during STEREO operation
KRF-V8020D
1kHz,10% T.H.D.,at 8 Ω ..... 140 W + 140 W
Rated power output during STEREO operation

100 watts per channel minimum RMS, both channels driven, at 8 Ω from 40 Hz to 20 kHz with no more than 0.7% total harmonic distortion.(FTC)

Effective power output during SURROUND operation
FRONT (1kHz, 10% T.H.D. at 8 Ω one channel driven)
..... 100 W + 100 W
CENTER (1kHz, 10% T.H.D. at 8 Ω one channel driven)
..... 100 W
SURROUND (1kHz, 10% T.H.D. at 8 Ω one channel driven)
..... 100 W + 100 W
Total harmonic distortion ..... 0.03% (1 kHz, 50W, 8 Ω)
Frequency response
CD ..... 10 Hz – 85kHz, +0 dB, –3.0 dB
Signal to noise ratio (IHF'66)
PHONO (MM) ..... 75 dB
CD ..... 93 dB
Input sensitivity / impedance
PHONO (MM) ..... 2.5 mV / 27 kΩ
CD ..... 200 mV / 47 kΩ
Output level / impedance
TAPE REC ..... 200 mV / 2.2 kΩ
PRE OUT (SUBWOOFER) ..... 2 V / 2.2 kΩ
Tone control
BASS ..... ±10 dB (at 100 Hz)
TREBLE ..... ±10 dB (at 10 kHz)

DIGITAL AUDIO section

Sampling frequency ..... 32 kHz, 44.1 kHz, 48 kHz
Input level / impedance / wave length
Optical ..... -15 dBm – -21 dBm, 600 nm ±30nm
Coaxial ..... 0.5 Vp-p / 75 Ω

VIDEO section

VIDEO inputs / outputs
VIDEO (composite) ..... 1 Vp-p / 75 Ω
S VIDEO (luminance signal) ..... 1 Vp-p / 75 Ω
(chrominance signal) ..... 0.286 Vp-p / 75 Ω

FM tuner section

Tuning frequency range ..... 87.5 MHz ~ 108 MHz
Usable sensitivity (MONO)
..... 1.6 µV (75 Ω)/ 15.2 dBf (75 kHz DEV., SINAD 30 dB)
50dB quieting sensitivity
STEREO ..... 31.6 µV (75 Ω)/ 41.2 dBf
Total harmonic distortion (1 kHz)
MONO ..... 0.6% (65 dBf input)
STEREO ..... 0.7% (65 dBf input)
Signal to noise ratio (1 kHz, 75 kHz DEV.)
MONO ..... 75 dB (65 dBf input)
STEREO ..... 68 dB (65 dBf input)
Stereo separation (1 kHz) ..... 38 dB
Selectivity (±400 kHz) ..... 50 dB
Frequency response ..... 30 Hz – 15kHz, +0.5 dB, –3.0 dB

AM tuner section

Tuning frequency range
9 kHz step ..... 531 kHz – 1,602 kHz
10 kHz step ..... 530 kHz ~ 1,610 kHz
Usable sensitivity (30% mod., S/N 20 dB)
..... 16 µV / (600 µV/m)
Signal to noise ratio (30% mod. 1 mV input) ..... 50 dB

GENERAL

Power consumption
For U.S. military, Australia, Malaysia ..... 240 W
For other countries ..... 230 W
AC outlet
SWITCHED ..... 2 (total 150 W max.)
Dimensions ..... W : 440 mm
H : 144 mm
D : 400 mm
Weight (Net) ..... 8.6 kg

Memory back up function

Please note that the following items will be deleted from the unit's memory if the power cord is disconnected from the AC outlet or the main power switch is turned off for approximately 3 days.

- Power mode.
- Input selector settings.
- Volume level.
- Broadcast band.
- Frequency setting.
- Preset stations.

Notes
1. KENWOOD follows a policy of continuous advancements in development. For this reason specifications may be changed without notice.
2. The full performance may not be exhibited in an extremely cold location (under a water-freezing temperature).